

Serial No.:	10/808,072	Filed:	03/24/2004
Office Action Date:	04/10/2006	Amendment Date:	7/7/2006

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Canceled)
2. (Canceled)
3. (Previously Presented) A method of reporting information from a vehicle to a vehicle data collection system, comprising:
storing information which defines a geographic region in a vehicle, the geographic region comprising a predetermined array of cells, each cell having a cell position;
associating a plurality of cell parameters with each cell, the cell parameters comprising a recording interval and a reporting interval;
determining a vehicle position relative to the geographic region, wherein if the vehicle is within the geographic region, the vehicle position is correlated to a vehicle cell;
recording vehicle data in accordance with the recording interval of the vehicle cell; and
reporting the vehicle data to a vehicle data collection system in accordance with the reporting interval;
repeating said steps of determining the vehicle position, recording the vehicle data and reporting the vehicle data for a plurality of cycles; and,
updating the information which defines the geographic region.
4. (Previously Presented) The method of claim 3, further comprising updating at least one cell parameter.
5. (Previously Presented) The method of claim 3, wherein the vehicle data comprises at least one datum from the group consisting of a vehicle speed, a vehicle heading, the vehicle position, a vehicle elevation and an ambient temperature.
6. (Previously Presented) The method of claim 3, wherein the cell position comprises a latitudinal position and a longitudinal position.

Serial No.: 10/808,072 Filed: 03/24/2004
Office Action Date: 04/10/2006 Amendment Date: 7/7/2006

7. (Original) The method of claim 6, wherein the cell position further comprises an elevational position.
8. (Previously Presented) The method of claim 3, wherein the cell parameters further comprise a recording priority.
9. (Previously Presented) The method of claim 8, wherein the recording priority of a cell is determined as a function of a roadway type located within the cell.
10. (Currently Amended) The method of claim 3,
A method of reporting information from a vehicle to a vehicle data collection system,
comprising:
storing information which defines a geographic region in a vehicle, the geographic region
comprising a predetermined array of cells, each cell having a cell position;
associating a plurality of cell parameters with each cell, the cell parameters comprising a
recording interval and a reporting interval;
determining a vehicle position relative to the geographic region, wherein if the vehicle is
within the geographic region, the vehicle position is correlated to a vehicle cell;
recording vehicle data in accordance with the recording interval of the vehicle cell; and
reporting the vehicle data to a vehicle data collection system in accordance with the
reporting interval;
repeating said steps of determining the vehicle position, recording the vehicle data and
reporting the vehicle data for a plurality of cycles; and,
updating the information which defines the geographic region;
wherein the geographic region comprises a plurality of geographic regions and the method may be selectively enabled or disabled for each geographic region.
11. (canceled)
12. (canceled)

Serial No.: 10/808,072 Filed: 03/24/2004
Office Action Date: 04/10/2006 Amendment Date: 7/7/2006

13. (Previously Presented) The method of claim 15, wherein converting the vehicle position to a vehicle cell (X, Y) in relation to the array of cells is performed according to the following relationship:

$$X = (Lon_x - Lon_0)/C_{LON}; \text{ and}$$

$$Y = (Lat_y - Lat_0)/C_{LAT}.$$

14. (original) The method of claim 13, wherein determining whether the vehicle cell is within the array of cells comprising the geographic region is performed by evaluating the values of X and Y, and wherein if $0 \leq X \leq N_{LON}$ and $0 \leq Y \leq N_{LAT}$, the vehicle is within the geographic region.

15. (Previously Presented) A method of reporting information from a vehicle to a vehicle data collection system, comprising:

storing information comprising a geographic region in a vehicle, the geographic region having a latitudinal origin (Lat_0) and a longitudinal origin (Lon_0) and comprising a predetermined array of cells having a plurality of latitudinal elements (N_{LAT}) and a plurality of longitudinal elements (N_{LON}), each cell having a cell position within the array, a latitudinal width (C_{LAT}) and a longitudinal width (C_{LON});

associating a plurality of cell parameters with each cell, the cell parameters comprising a recording priority ($T_{(X,Y)}$), reporting interval (t_r) and measurement interval (t_m); determining a vehicle position comprising a vehicle latitude (Lat_y) and vehicle longitude (Lon_x);

converting the vehicle position to a vehicle cell (X, Y) in relation to the array of cells; determining whether the vehicle cell is within the array of cells comprising the geographic region;

if the vehicle is within the region, recording vehicle data in accordance with the recording priority and the recording interval of the vehicle cell; and

reporting the vehicle data to a vehicle data collection system in accordance with the reporting interval;

repeating determining the vehicle position, converting the vehicle position to a vehicle cell, determining whether the vehicle cell is within the array of cells, recording the vehicle data and reporting the vehicle data for a plurality of cycles; and,

Serial No.: 10/808,072 Filed: 03/24/2004
Office Action Date: 04/10/2006 Amendment Date: 7/7/2006

updating the information which defines the geographic region.

16. (Previously Presented) The method of claim 15, further comprising updating at least one cell parameter.

17. (Previously Presented) The method of claim 15, wherein the vehicle data comprises at least one datum from the group consisting of a vehicle speed, a vehicle heading, the vehicle position, a vehicle elevation and an ambient temperature.

18. (Previously Presented) The method of claim 15, wherein the cell position further comprises an elevational position.

19. (Previously Presented) A method of reporting information from a vehicle to a vehicle data collection system, comprising:

storing information comprising a geographic region in a vehicle, the geographic region having a latitudinal origin (Lat_0) and a longitudinal origin (Lon_0) and comprising a predetermined array of cells having a plurality of latitudinal elements (N_{LAT}) and a plurality of longitudinal elements (N_{LON}), each cell having a cell position within the array, a latitudinal width (C_{LAT}) and a longitudinal width (C_{LON});
associating a plurality of cell parameters with each cell, the cell parameters comprising a recording priority ($T_{(X,Y)}$), reporting interval (t_r) and measurement interval (t_m);
determining a vehicle position comprising a vehicle latitude (Lat_Y) and vehicle longitude (Lon_X);
converting the vehicle position to a vehicle cell (X, Y) in relation to the array of cells;
determining whether the vehicle cell is within the array of cells comprising the geographic region;
if the vehicle is within the region, recording vehicle data in accordance with the recording priority and the recording interval of the vehicle cell; and
reporting the vehicle data to a vehicle data collection system in accordance with the reporting interval;

Serial No.: 10/808,072 Filed: 03/24/2004
Office Action Date: 04/10/2006 Amendment Date: 7/7/2006

repeating determining the vehicle position, converting the vehicle position to a vehicle cell, determining whether the vehicle cell is within the array of cells, recording the vehicle data and reporting the vehicle data for a plurality of cycles;
wherein the recording priority of a cell is determined as a function of a roadway type associated with the cell.

20. (Previously Presented) The method of claim 19, wherein the geographic region comprises a plurality of roadways located therein, each roadway having a roadway type identifier associated therewith, and wherein the recording priority of a cell is determined as a function of the roadway type identifier.

21. (Previously Presented) The method of claim 15, wherein the geographic region comprises a plurality of geographic reporting regions and the method may be selectively enabled or disabled for each of the geographic regions.

22. (canceled)

23. (canceled)

24. (Previously Presented) A system for communicating vehicle data between a vehicle and a vehicle data collection system:

a vehicle that is adapted to record and report vehicle data as a function of a vehicle position, said vehicle having a vehicle data storage system to record vehicle data and a vehicle communication system to report the vehicle data that is adapted for wireless communication of the vehicle data;

a vehicle data collection system that is adapted to receive and store vehicle data, said system adapted to receive wireless communication of the vehicle data from the vehicle;

wherein the vehicle is adapted to record and report vehicle data as a function of the vehicle position according to a method comprising:
storing information which defines a geographic region in the vehicle, the geographic region comprising a predetermined array of cells, each cell having a cell position;

Serial No.: 10/808,072 Filed: 03/24/2004
Office Action Date: 04/10/2006 Amendment Date: 7/7/2006

associating a plurality of cell parameters with each cell, the cell parameters comprising a recording interval and a reporting interval;
determining the vehicle position relative to the geographic region; wherein if the vehicle is within the geographic region, the vehicle position is correlated to a vehicle cell;
recording the vehicle data in accordance with the recording interval of the vehicle cell;
reporting the vehicle data to the vehicle data collection system in accordance with the reporting interval; and
repeating the steps of determining the vehicle position, recording the vehicle data and reporting the vehicle data for a plurality of cycles; and,
updating the information which defines the geographic region.

25. (original) The system of claim 24, wherein updating the information which defines the geographic region comprises communicating updated information concerning the geographic region from the vehicle data collection system to the vehicle and storing the updated information in the vehicle data storage system.

26. (Previously Presented) The system of claim 24, further comprising updating at least one cell parameter.

27. (original) The system of claim 26, wherein updating at least one cell parameter comprises communicating the updated information concerning the at least one cell parameter from the vehicle data collection system to the vehicle and storing the updated information in the vehicle data storage system.

28. (Previously Presented) The system of claim 24, wherein the vehicle data comprises at least one datum from the group consisting of a vehicle speed, a vehicle heading, the vehicle position, a vehicle elevation and an ambient temperature.